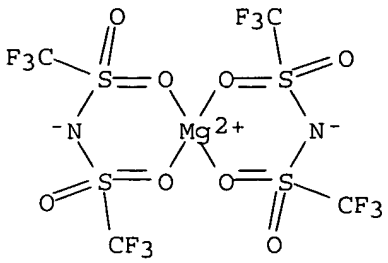
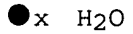
```
FILE 'HOME' ENTERED AT 10:38:52 ON 30 JAN 2007

=> file reg
COST IN U.S. DOLLARS                                    SINCE FILE      TOTAL
                                                           ENTRY    SESSION
FULL ESTIMATED COST                                         0.21       0.21

FILE 'REGISTRY' ENTERED AT 10:39:02 ON 30 JAN 2007
USE IS SUBJECT TO THE TERMS OF YOUR STN CUSTOMER AGREEMENT.
PLEASE SEE "HELP USAGETERMS" FOR DETAILS.
COPYRIGHT (C) 2007 American Chemical Society (ACS)

Property values tagged with IC are from the ZIC/VINITI data file
provided by InfoChem.

STRUCTURE FILE UPDATES:   29 JAN 2007  HIGHEST RN 918776-45-1
DICTIONARY FILE UPDATES:  29 JAN 2007  HIGHEST RN 918776-45-1

New CAS Information Use Policies, enter HELP USAGETERMS for details.

TSCA INFORMATION NOW CURRENT THROUGH June 30, 2006

  Please note that search-term pricing does apply when
  conducting SmartSELECT searches.

REGISTRY includes numerically searchable data for experimental and
predicted properties as well as tags indicating availability of
experimental property data in the original document.  For information
on property searching in REGISTRY, refer to:

http://www.cas.org/ONLINE/UG/regprops.html

=> magnesium bistrifluoromethanesulfonimide/CN
MAGNESIUM IS NOT A RECOGNIZED COMMAND
The previous command name entered was not recognized by the system.
For a list of commands available to you in the current file, enter
"HELP COMMANDS" at an arrow prompt (=>).

=> s magnesium bistrifluoromethanesulfonimide/CN
L1             0 MAGNESIUM BISTRIFLUOROMETHANESULFONIMIDE/CN

=> s magnesium (w) bistrifluoromethanesulfonimide/CN
PROXIMITY OPERATOR LEVEL NOT CONSISTENT WITH
FIELD CODE - 'AND' OPERATOR ASSUMED 'MAGNESIUM (W) BISTRIFLU'
         96860 MAGNESIUM
             0 BISTRIFLUOROMETHANESULFONIMIDE/CN
L2           0 MAGNESIUM (W) BISTRIFLUOROMETHANESULFONIMIDE/CN

=> e magnesium bistrifluoromethanesulfonimide/CN
E1             1     MAGNESIUM BISMUTHATE(III)/CN
E2             1     MAGNESIUM BISMUTHIDE (MG3BI2)/CN
E3             0 --> MAGNESIUM BISTRIFLUOROMETHANESULFONIMIDE/CN
E4             1     MAGNESIUM BISULFATE/CN
E5             1     MAGNESIUM BISULFATE MONOHYDRATE/CN
E6             1     MAGNESIUM BISULFITE/CN
E7             1     MAGNESIUM BISULFITE (28MG(H35SO3)2)/CN
E8             3     MAGNESIUM BORATE/CN
E9             1     MAGNESIUM BORATE (MG(B5O8)2)/CN
E10            1     MAGNESIUM BORATE (MG(BO2)2)/CN
E11            1     MAGNESIUM BORATE (MG2B2O5)/CN
E12            1     MAGNESIUM BORATE (MG2B2O5) DIHYDRATE/CN

=> e magnesium trifluoromethanesulfonimide/CN
```

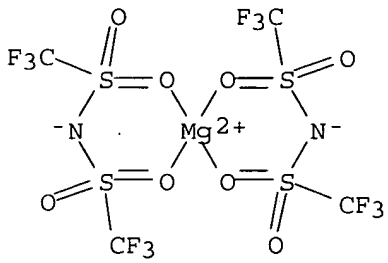
```
E1            1      MAGNESIUM TRIFLUOROMETHANESULFONATE/CN
E2            1      MAGNESIUM TRIFLUOROMETHANESULFONATE (1:2)/CN
E3            0 --> MAGNESIUM TRIFLUOROMETHANESULFONIMIDE/CN
E4            1      MAGNESIUM TRIHYDROETHYLBORATE/CN
E5            1      MAGNESIUM TRIHYDROGEN TRIPHOSPHATE/CN
E6            1      MAGNESIUM TRIHYDROPHOSPHONOBORATE, TETRAISOPROPYL ESTER/CN
E7            1      MAGNESIUM TRIHYDROXYPALMITATE/CN
E8            1      MAGNESIUM TRIISOBUTYLBOROHYDRIDE/CN
E9            1      MAGNESIUM TRIISOPROPOXYBOROHYDRIDE/CN
E10           1      MAGNESIUM TRIMETHOXYBOROHYDRIDE/CN
E11           1      MAGNESIUM TRINITRORESORCINATE/CN
E12           1      MAGNESIUM TRIOXALATOCHROMATE(III)/CN

=> e lithium bistrifluoromethanesulfonimide/CN
E1            1      LITHIUM BISOXALATODYSPROSATE(1-) PENTAHYDRATE/CN
E2            1      LITHIUM BISTRIFLAMIDE/CN
E3            0 --> LITHIUM BISTRIFLUOROMETHANESULFONIMIDE/CN
E4            1      LITHIUM BISULFATE/CN
E5            1      LITHIUM BISULFITE/CN
E6            1      LITHIUM BITARTRATE/CN
E7            1      LITHIUM BITARTRATE MONOHYDRATE/CN
E8            1      LITHIUM BIURATE/CN
E9            1      LITHIUM BORACITE/CN
E10           1      LITHIUM BORACITE (B7LI4CLO12)/CN
E11           2      LITHIUM BORATE/CN
E12           1      LITHIUM BORATE (6LI210B407)/CN

=> e lithium trifluoromethanesulfonimide/CN
E1            1      LITHIUM TRIFLUOROMETHANESULFONATE (LISO3CF3)/CN
E2            1      LITHIUM TRIFLUOROMETHANESULFONATE COMPOUND WITH TETRAHYDROFU
                     RAN (1:1)/CN
E3            0 --> LITHIUM TRIFLUOROMETHANESULFONIMIDE/CN
E4            1      LITHIUM TRIFLUOROMETHANESULFONYL(NONAFLUOROBUTANESULFONYL)IM
                     IDE/CN
E5            1      LITHIUM TRIFLUOROMETHOXIDE/CN
E6            1      LITHIUM TRIFLUOROMETHOXOBORATE(1-)/CN
E7            1      LITHIUM TRIFLUOROTRIS(PERFLUOROETHYL)PHOSPHATE/CN
E8            1      LITHIUM TRIFLUOROTRIS(TRIFLUOROMETHYL)PHOSPHATE/CN
E9            1      LITHIUM TRIFLUOROVINYLSULFINATE/CN
E10           1      LITHIUM TRIHEXYLMAGNESATE/CN
E11           1      LITHIUM TRIHYDRIDO(TETRAHYDROBORATO)ALUMINATE(1-)/CN
E12           1      LITHIUM TRIHYDRIDOTRIS(TRIPHENYLPHOSPHINE)RUTHENATE(1-)/CN

=> s (1)/Mg and (4)/C and (12)/F and (4)/S and (8)/O and (2)/N
        145346 (1)/MG
        472977 (4)/C
         26499 (12)/F
        210687 (4)/S
        668898 (8)/O
       5925906 (2)/N
L3            2 (1)/MG AND (4)/C AND (12)/F AND (4)/S AND (8)/O AND (2)/N

=> d l3 1-2

L3   ANSWER 1 OF 2  REGISTRY  COPYRIGHT 2007 ACS on STN
RN   699012-52-7  REGISTRY
ED   Entered STN:  25 Jun 2004
CN   Magnesium, bis[1,1,1-trifluoro-N-[(trifluoromethyl)sulfonyl-
     κO]methanesulfonamidato-κO]-, hydrate, (T-4)- (9CI)  (CA INDEX
     NAME)
MF   C4 F12 Mg N2 O8 S4 . x H2 O
CI   CCS
SR   CAS Client Services
```

CRN (133395-16-1)





L3 ANSWER 2 OF 2 REGISTRY COPYRIGHT 2007 ACS on STN
RN 133395-16-1 REGISTRY
ED Entered STN: 19 Apr 1991
CN Magnesium, bis[1,1,1-trifluoro-N-[(trifluoromethyl)sulfonyl-κO]methanesulfonamidato-κO]-, (T-4)- (9CI) (CA INDEX NAME)
OTHER CA INDEX NAMES:
CN Magnesium, bis[1,1,1-trifluoro-N-[(trifluoromethyl)sulfonyl]methanesulfonamidato-ON,O1]-, (T-4)-
OTHER NAMES:
CN Magnesium bis(trifluoromethane sulfone)imide
CN Magnesium bis(trifluoromethylsulfonyl)imide
CN Magnesium trifluoromethanesulfonamide Mg[(CF3SO3)2N]2
DR 779325-61-0, 880462-78-2, 890305-29-0, 906109-57-7, 689282-16-4, 795315-98-9, 479192-18-2, 212554-05-7, 256483-66-6, 389138-05-0, 460091-96-7, 536756-43-1
MF C4 F12 Mg N2 O8 S4
CI CCS, COM
SR CA
LC STN Files: CA, CAPLUS, CASREACT, USPAT2, USPATFULL



PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

44 REFERENCES IN FILE CA (1907 TO DATE)
1 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA
44 REFERENCES IN FILE CAPLUS (1907 TO DATE)

=> file caplus

COST IN U.S. DOLLARS	SINCE FILE ENTRY	TOTAL SESSION
FULL ESTIMATED COST	52.95	53.16

FILE 'CAPLUS' ENTERED AT 10:44:56 ON 30 JAN 2007
USE IS SUBJECT TO THE TERMS OF YOUR STN CUSTOMER AGREEMENT.
PLEASE SEE "HELP USAGETERMS" FOR DETAILS.

FILE COVERS 1907 - 30 Jan 2007 VOL 146 ISS 6
FILE LAST UPDATED: 29 Jan 2007 (20070129/ED)

Effective October 17, 2005, revised CAS Information Use Policies apply.
They are available for your review at:

http://www.cas.org/infopolicy.html

```
=> s l3 and battery
            44 L3
        130693 BATTERY
L4          14 L3 AND BATTERY

=> d l4 ibib kwic 1-14

L4   ANSWER 1 OF 14  CAPLUS  COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER:        2005:521398  CAPLUS
DOCUMENT NUMBER:         143:214242
TITLE:                   A novel polymeric gel electrolyte systems containing
                         magnesium salt with ionic liquid
AUTHOR(S):               Yoshimoto, Nobuko; Shirai, Takahiro; Morita, Masayuki
CORPORATE SOURCE:        Department of Applied Chemistry and Chemical
                         Engineering, Faculty of Engineering, Yamaguchi
                         University, Ube, 755-8611, Japan
SOURCE:                  Electrochimica Acta (2005), 50(19), 3866-3871
                         CODEN: ELCAAV; ISSN: 0013-4686
PUBLISHER:               Elsevier B.V.
DOCUMENT TYPE:           Journal
LANGUAGE:                English
REFERENCE COUNT:         29    THERE ARE 29 CITED REFERENCES AVAILABLE FOR THIS
                               RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT
IT   Battery electrolytes
     Ionic liquids
     Secondary batteries
        (novel polymeric gel electrolyte systems containing magnesium salt with
        ionic liquid)
IT   133395-16-1
     RL: RCT (Reactant); RACT (Reactant or reagent)
        (novel polymeric gel electrolyte systems containing magnesium salt with
        ionic liquid)

L4   ANSWER 2 OF 14  CAPLUS  COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER:        2005:344652  CAPLUS
DOCUMENT NUMBER:         142:395086
TITLE:                   Secondary nonaqueous electrolyte battery
INVENTOR(S):             Dojo, Kazunori; Itaya, Shoji; Koga, Hideyuki;
```

Fujimoto, Masahisa
PATENT ASSIGNEE(S): Sanyo Electric Co., Ltd., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 8 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2005108520	A	20050421	JP 2003-337884	20030929

PRIORITY APPLN. INFO.: JP 2003-337884 20030929
TI Secondary nonaqueous electrolyte battery
AB The battery has a cathode, a C containing anode, and a Mg salt containing nonaq. electrolyte; where the battery contains Li functioning as an active mass.
ST secondary battery electrolyte org magnesium salt
IT 108-32-7, Propylene carbonate 7439-93-2, Lithium, uses 7440-25-7, Tantalum, uses 7782-42-5, Graphite, uses 133395-16-1
RL: DEV (Device component use); USES (Uses)
(electrolytes containing magnesium salts for secondary lithium batteries)

L4 ANSWER 3 OF 14 CAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 2004:1130231 CAPLUS
DOCUMENT NUMBER: 142:414305
TITLE: Ionic conductance behavior of polymeric gel electrolyte containing ionic liquid mixed with magnesium salt
AUTHOR(S): Morita, Masayuki; Shirai, Takahiro; Yoshimoto, Nobuko; Ishikawa, Masashi
CORPORATE SOURCE: Department of Applied Chemistry and Chemical Engineering, Faculty of Engineering, Yamaguchi University, Ube, 755-8611, Japan
SOURCE: Journal of Power Sources (2005), 139(1-2), 351-355
CODEN: JPSODZ; ISSN: 0378-7753
PUBLISHER: Elsevier B.V.
DOCUMENT TYPE: Journal
LANGUAGE: English
REFERENCE COUNT: 23 THERE ARE 23 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT
ST ionic cond polymer gel electrolyte liq magnesium secondary battery
IT Battery electrolytes
Gels
Ionic liquids
Polarization
Polymer electrolytes
Secondary batteries
Thermal analysis
(ionic conductance behavior of polymeric gel electrolyte containing ionic liquid mixed with magnesium salt)
IT 133395-16-1
RL: DEV (Device component use); USES (Uses)
(ionic conductance behavior of polymeric gel electrolyte containing ionic liquid mixed with magnesium salt)

L4 ANSWER 4 OF 14 CAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 2004:993801 CAPLUS
DOCUMENT NUMBER: 141:426261
TITLE: Nonaqueous electrolyte
INVENTOR(S): Dojo, Kazunori; Koga, Hideyuki; Itaya, Shoji; Fujimoto, Masahisa
PATENT ASSIGNEE(S): Sanyo Electric Co., Ltd., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 11 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2004327326	A	20041118	JP 2003-122459	20030425

PRIORITY APPLN. INFO.: JP 2003-122459 20030425
ST nonaq magnesium salt electrolyte soln amide solvent battery
IT Battery electrolytes
(nonaq. magnesium salt electrolyte solns. containing amide solvents for secondary magnesium batteries)
IT 60-35-5, Acetamide, uses 68-12-2, Dmf, uses 75-12-7, Formamide, uses 79-16-3, N-Methyl acetamide 123-39-7, N-Methyl formamide 127-19-5, N,N-Dimethyl acetamide 617-84-5, N,N-Diethyl formamide 1187-58-2, N-Methyl propionamide 60871-83-2, Magnesium trifluoromethanesulfonate 133395-16-1
RL: TEM (Technical or engineered material use); USES (Uses)
(nonaq. magnesium salt electrolyte solns. containing amide solvents for secondary magnesium batteries)

L4 ANSWER 5 OF 14 CAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 2004:876919 CAPLUS
DOCUMENT NUMBER: 141:368362
TITLE: Electrolyte and secondary battery which uses the electrolyte
INVENTOR(S): Miyaki, Yukio; Takada, Tomoo; Kawase, Kenichi; Iijima, Yukiko
PATENT ASSIGNEE(S): Sony Corp., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 18 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2004296315	A	20041021	JP 2003-88544	20030327

PRIORITY APPLN. INFO.: JP 2003-88544 20030327
TI Electrolyte and secondary battery which uses the electrolyte
AB The electrolyte has a F containing Li salt and a F containing Group II element salt. The battery has a cathode, an anode, and the above electrolyte.
ST secondary battery electrolyte Group IIa element salt
IT Battery electrolytes
(electrolytes having F containing Group II element salts for secondary batteries)
IT 13814-93-2, Calcium tetrafluoroborate 14708-13-5, Magnesium tetrafluoroborate 21324-41-4, Barium hexafluorophosphate 55120-75-7, Calcium trifluoromethane sulfonate 78415-39-1, Calcium hexafluorophosphate 99001-64-6, Strontium hexafluorophosphate 113359-60-7 133395-16-1 165324-11-8
RL: MOA (Modifier or additive use); USES (Uses)
(electrolytes having F containing Group II element salts for secondary batteries)

L4 ANSWER 6 OF 14 CAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 2004:802389 CAPLUS
DOCUMENT NUMBER: 141:280430

TITLE: Cathode active material for nonaqueous electrolyte secondary battery
INVENTOR(S): Inoue, Takao; Fujimoto, Masahisa; Itaya, Masaharu
PATENT ASSIGNEE(S): Sanyo Electric Co., Ltd., Japan
SOURCE: U.S. Pat. Appl. Publ., 11 pp.
CODEN: USXXCO
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 2004191628	A1	20040930	US 2004-801655	20040317
JP 2004288579	A	20041014	JP 2003-82305	20030325
KR 2004084761	A	20041006	KR 2004-19959	20040324
CN 1532967	A	20040929	CN 2004-10032263	20040325

PRIORITY APPLN. INFO.: JP 2003-82305 A 20030325
TI Cathode active material for nonaqueous electrolyte secondary battery
ST cathode active material nonaq electrolyte secondary battery
IT Battery cathodes
(cathode active material for nonaq. electrolyte secondary battery)
IT Fluoropolymers, uses
RL: MOA (Modifier or additive use); USES (Uses)
(cathode active material for nonaq. electrolyte secondary battery)
IT Transition metal oxides
RL: DEV (Device component use); USES (Uses)
(lithiated; cathode active material for nonaq. electrolyte secondary battery)
IT Secondary batteries
(lithium; cathode active material for nonaq. electrolyte secondary battery)
IT 96-48-0, γ-Butyrolactone 96-49-1, Ethylene carbonate 105-58-8, Diethyl carbonate 7429-90-5, Aluminum, uses 12190-79-3, Cobalt lithium oxide colio2 21324-40-3, Lithium hexafluorophosphate 133395-16-1
RL: DEV (Device component use); USES (Uses)
(cathode active material for nonaq. electrolyte secondary battery)
IT 159967-11-0P, Lithium magnesium nickel oxide 175786-46-6P, Lithium magnesium manganese oxide 187144-48-5P, Cobalt lithium magnesium oxide 191110-10-8P, Iron lithium magnesium oxide
RL: DEV (Device component use); SPN (Synthetic preparation); PREP (Preparation); USES (Uses)
(cathode active material for nonaq. electrolyte secondary battery)
IT 24937-79-9, Pvdf
RL: MOA (Modifier or additive use); USES (Uses)
(cathode active material for nonaq. electrolyte secondary battery)

L4 ANSWER 7 OF 14 CAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 2004:782114 CAPLUS
DOCUMENT NUMBER: 141:298684
TITLE: Nonaqueous-electrolyte battery with magnesium-based anode
INVENTOR(S): Koga, Hideyuki; Dojo, Kazunori; Itaya, Shoji; Fujimoto, Masahisa
PATENT ASSIGNEE(S): Sanyo Electric Co., Ltd., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 8 pp.
CODEN: JKXXAF

DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2004265676	A	20040924	JP 2003-53548	20030228

PRIORITY APPLN. INFO.: JP 2003-53548 20030228

TI Nonaqueous-electrolyte battery with magnesium-based anode

AB The claimed battery is equipped with a cathode containing carbon fluoride CxF (x = 1-9), an anode containing Mg, and a nonaq. electrolyte containing a Mg imide salt or a Mg sulfonate salt. Preferably, the anode contains Mg, a Mg alloy, MgO, Si, C, and/or a transition metal sulfide. The battery provides high capacity and safety.

ST magnesium anode nonaq electrolyte battery safety

IT Transition metal sulfides
RL: DEV (Device component use); USES (Uses)
(anode containing; nonaq.-electrolyte battery with magnesium-based anode)

IT Battery anodes
Safety
Secondary batteries
(nonaq.-electrolyte battery with magnesium-based anode)

IT Magnesium alloy, base
RL: DEV (Device component use); USES (Uses)
(anode; nonaq.-electrolyte battery with magnesium-based anode)

IT 7440-21-3, Silicon, uses 7440-44-0, Carbon, uses
RL: DEV (Device component use); USES (Uses)
(anode containing; nonaq.-electrolyte battery with magnesium-based anode)

IT 1309-48-4, Magnesium oxide, uses 7439-95-4, Magnesium, uses
RL: DEV (Device component use); USES (Uses)
(anode; nonaq.-electrolyte battery with magnesium-based anode)

IT 3889-75-6, Carbon fluoride (CF) 51311-17-2, Carbon fluoride
RL: DEV (Device component use); USES (Uses)
(cathode; nonaq.-electrolyte battery with magnesium-based anode)

IT 60871-83-2, Magnesium trifluoromethanesulfonate 133395-16-1
RL: DEV (Device component use); USES (Uses)
(electrolyte; nonaq.-electrolyte battery with magnesium-based anode)

L4 ANSWER 8 OF 14 CAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 2004:779292 CAPLUS
DOCUMENT NUMBER: 141:298678
TITLE: Nonaqueous-electrolyte battery with magnesium-based anode and sulfur cathode
INVENTOR(S): Koga, Hideyuki; Dojo, Kazunori; Itaya, Shoji; Fujimoto, Masahisa; Miyake, Masahide
PATENT ASSIGNEE(S): Sanyo Electric Co., Ltd., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 9 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2004265675	A	20040924	JP 2003-53547	20030228

PRIORITY APPLN. INFO.: JP 2003-53547 20030228

TI Nonaqueous-electrolyte battery with magnesium-based anode and sulfur cathode

AB The claimed battery is equipped with a cathode containing S, an anode containing Mg, and a nonaq. electrolyte containing a Mg salt. Preferably, the anode contains Mg, a Mg alloy, MgO, Si, C, and/or a transition metal sulfide. The battery provides high capacity and safety.

ST magnesium anode nonaq electrolyte battery safety; sulfur cathode nonaq electrolyte battery safety

IT Transition metal sulfides
RL: DEV (Device component use); USES (Uses)
(anode containing; nonaq.-electrolyte battery with magnesium-based anode and sulfur cathode)

IT Battery anodes
Battery cathodes
Safety
Secondary batteries
(nonaq.-electrolyte battery with magnesium-based anode and sulfur cathode)

IT Magnesium alloy, base
RL: DEV (Device component use); USES (Uses)
(anode; nonaq.-electrolyte battery with magnesium-based anode and sulfur cathode)

IT 7440-21-3, Silicon, uses 7440-44-0, Carbon, uses
RL: DEV (Device component use); USES (Uses)
(anode containing; nonaq.-electrolyte battery with magnesium-based anode and sulfur cathode)

IT 1309-48-4, Magnesium oxide, uses 7439-95-4, Magnesium, uses
RL: DEV (Device component use); USES (Uses)
(anode; nonaq.-electrolyte battery with magnesium-based anode and sulfur cathode)

IT 7704-34-9, Sulfur, uses
RL: DEV (Device component use); USES (Uses)
(cathode; nonaq.-electrolyte battery with magnesium-based anode and sulfur cathode)

IT 60871-83-2, Magnesium trifluoromethanesulfonate 133395-16-1
RL: DEV (Device component use); USES (Uses)
(electrolyte; nonaq.-electrolyte battery with magnesium-based anode and sulfur cathode)

L4 ANSWER 9 OF 14 CAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 2004:570455 CAPLUS
DOCUMENT NUMBER: 141:91879
TITLE: Method of preparation of electrolyte for nonaqueous battery
INVENTOR(S): Itaya, Masaharu; Miyake, Masahide; Fujimoto, Masahisa; Koga, Hideyuki; Donoue, Kazunori
PATENT ASSIGNEE(S): Japan
SOURCE: U.S. Pat. Appl. Publ., 7 pp.
CODEN: USXXCO
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 2004137324	A1	20040715	US 2003-743746	20031224
JP 2004213991	A	20040729	JP 2002-381184	20021227
JP 2004265677	A	20040924	JP 2003-53549	20030228

PRIORITY APPLN. INFO.: JP 2002-381184 A 20021227
JP 2003-53549 A 20030228

TI Method of preparation of electrolyte for nonaqueous battery

AB An electrolyte for a nonaq. battery according to the present invention consists essentially of magnesium bistrifluoromethanesulfonimide . An electrolytic solution for a nonaq. battery according to the present invention includes the magnesium bistrifluoromethanesulfonimide, and an organic solvent such as a cyclic carbonate, a chain carbonate, a cyclic ether and a chain ether or an ordinary temperature molten salt having a m.p. of 60° or less in which the magnesium bistrifluoromethanesulfonimide is dissolved.

ST electrolyte prepn nonaq magnesium ion battery

IT Esters, uses
Ethers, uses
RL: DEV (Device component use); USES (Uses)
(chain; method of preparation of electrolyte for nonaq. battery)

IT Ethers, uses
RL: DEV (Device component use); USES (Uses)
(cyclic; method of preparation of electrolyte for nonaq. battery)

IT Hydrocarbons, uses
RL: DEV (Device component use); USES (Uses)
(fluoro; method of preparation of electrolyte for nonaq. battery)

IT Secondary batteries
(magnesium ion; method of preparation of electrolyte for nonaq. battery)

IT Battery electrolytes
(method of preparation of electrolyte for nonaq. battery)

IT Crown ethers
Lactones
Transition metal sulfides
RL: DEV (Device component use); USES (Uses)
(method of preparation of electrolyte for nonaq. battery)

IT Imides
RL: RCT (Reactant); RACT (Reactant or reagent)
(method of preparation of electrolyte for nonaq. battery)

IT Sulfonic acids, uses
RL: MOA (Modifier or additive use); USES (Uses)
(salts; method of preparation of electrolyte for nonaq. battery)

IT Imides
Sulfonic acids, uses
RL: MOA (Modifier or additive use); USES (Uses)
(sulfonimides, alkyl; method of preparation of electrolyte for nonaq. battery)

IT Magnesium alloy, base
RL: DEV (Device component use); USES (Uses)
(method of preparation of electrolyte for nonaq. battery)

IT 79-20-9, Methyl acetate 96-48-0, γ-Butyrolactone 96-49-1, Ethylene carbonate 105-58-8, Diethyl carbonate 107-31-3, Methyl formate 108-29-2 108-32-7, Propylene carbonate 109-99-9, Thf, uses 110-71-4 126-33-0, Sulfolane 463-79-6D, Carbonic acid, ester, chain 463-79-6D, Carbonic acid, ester, cyclic 554-12-1, Methyl propionate 616-38-6, Dimethyl carbonate 623-53-0, Ethyl methyl carbonate 1309-48-4, Magnesium oxide, uses 1333-38-6, Angelica lactone 7439-95-4, Magnesium, uses 7440-21-3, Silicon, uses 22251-34-9, Ethoxymethoxymethane 51311-17-2, Carbon fluoride 60871-83-2, Magnesium triflate 73506-93-1, Diethoxyethane 114435-02-8, FluoroEthylene carbonate 133395-16-1 268536-05-6, Trimethylpropylammonium-bis-(trifluoromethylsulfonyl)imide
RL: DEV (Device component use); USES (Uses)
(method of preparation of electrolyte for nonaq. battery)

IT 546-93-0, Magnesium carbonate 1309-42-8, Magnesium hydroxide
RL: RCT (Reactant); RACT (Reactant or reagent)
(method of preparation of electrolyte for nonaq. battery)

L4 ANSWER 10 OF 14 CAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 2004:392764 CAPLUS
DOCUMENT NUMBER: 140:393380
TITLE: Method of fabrication of rechargeable electrochemical cell
INVENTOR(S): Chung, Sai-Cheong; Nakayama, Yuri; Noda, Kazuhiro; Hatazawa, Tsuyonobu
PATENT ASSIGNEE(S): Sony Corporation, Japan
SOURCE: PCT Int. Appl., 36 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2004040675	A2	20040513	WO 2003-JP13789	20031028
WO 2004040675	A3	20041125		
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW				
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
AU 2003274763	A1	20040525	AU 2003-274763	20031028
CN 1708874	A	20051214	CN 2003-80102154	20031028
JP 2006505109	T	20060209	JP 2004-548055	20031028
US 2006003229	A1	20060105	US 2005-532947	20050427

PRIORITY APPLN. INFO.: US 2002-421949P P 20021029
WO 2003-JP13789 W 20031028

ST electrochem cell rechargeable fabrication method; battery rechargeable fabrication method

IT 68-12-2, Dmf, uses 75-05-8, Acetonitrile, uses 96-48-0, Butyrolactone 108-32-7, Propylene carbonate 109-99-9, Thf, uses 7782-42-5, Graphite, uses 10034-81-8, Magnesium perchlorate 12032-47-2 12039-13-3, Titanium sulfide (TiS2) 12054-17-0 13463-67-7, Titania, uses 22537-22-0, Magnesium ion, uses 133395-16-1, Magnesium bis(trifluoromethane sulfone)imide
RL: DEV (Device component use); USES (Uses)
(method of fabrication of rechargeable electrochem. cell)

L4 ANSWER 11 OF 14 CAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 2003:476026 CAPLUS
DOCUMENT NUMBER: 139:263222
TITLE: Rechargeable magnesium batteries with polymeric gel electrolytes containing magnesium salts
AUTHOR(S): Yoshimoto, Nobuko; Yakushiji, Shin; Ishikawa, Masashi; Morita, Masayuki
CORPORATE SOURCE: Faculty of Engineering, Department of Applied Chemistry and Chemical Engineering, Yamaguchi University, Ube, 755-8611, Japan
SOURCE: Electrochimica Acta (2003), 48(14-16), 2317-2322
CODEN: ELCAAV; ISSN: 0013-4686
PUBLISHER: Elsevier Science Ltd.
DOCUMENT TYPE: Journal
LANGUAGE: English
REFERENCE COUNT: 24 THERE ARE 24 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

AB Novel polymeric gel electrolytes consisting of poly(ethylene

oxide)-modified poly(methacrylate) (PEO-PMA) with magnesium imide (Mg[(CF3SO2)2N]2) as the electrolytic salt and mixed alkyl carbonates as the plasticizer have been prepared by photo-induced radical polymerization The polymeric gel film was flexible and self-standing with proper mech. strength. The ionic conductivity of the polymeric gel film was about 10-3 S cm-1
at room temperature The ionic conductivity increased with the content of the plasticizer, ethylene carbonate (EC) and di-Me carbonate (DMC), in the complex, while the mech. strength of the gel film decreased with the increase in the plasticizer. The highest conductivity was obtained for the composition of 75 weight % Of the plasticizing component, EC+DMC dissolving Mg[(CF3SO2)2N]2 in the gel. The applicability of the present gel film to a rechargeable battery system was examined by a prototype cell consisting of Mg-doped V2O5 and V2O5 (or MnO2) as the neg. and pos. electrodes, resp.

ST rechargeable magnesium battery polymeric gel electrolyte magnesium salt

IT 133395-16-1
RL: NUU (Other use, unclassified); USES (Uses)
(rechargeable magnesium batteries with polymeric gel electrolytes containing magnesium salts)

L4 ANSWER 12 OF 14 CAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 2002:936892 CAPLUS
DOCUMENT NUMBER: 138:257747
TITLE: Ionic conductance behavior of polymeric electrolytes containing magnesium salts and their application to rechargeable batteries
AUTHOR(S): Yoshimoto, Nobuko; Yakushiji, Shin; Ishikawa, Masashi; Morita, Masayuki
CORPORATE SOURCE: Department of Applied Chemistry and Chemical Engineering, Yamaguchi University, Ube, 755-8611, Japan
SOURCE: Solid State Ionics (2002), 152-153, 259-266
CODEN: SSIOD3; ISSN: 0167-2738
PUBLISHER: Elsevier Science B.V.
DOCUMENT TYPE: Journal
LANGUAGE: English
REFERENCE COUNT: 22 THERE ARE 22 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

ST ionic conductance polymer electrolyte magnesium salt rechargeable battery

IT Electric impedance
(equivalent circuits for assembled battery; ionic conductance behavior of polymeric electrolytes containing magnesium salts and their application to rechargeable batteries)

IT 10034-81-8D, Magnesium perchlorate, complexes with PEO-PMA matrix graft polymer and PEGDME 60871-83-2D, Magnesium trifluoromethanesulfonate, complexes with PEO-PMA matrix graft polymer and PEGDME 133395-16-1D, Magnesium bis(trifluoromethane sulfone)imide, complexes with PEO-PMA matrix graft polymer and PEGDME
RL: PEP (Physical, engineering or chemical process); PRP (Properties); PYP (Physical process); TEM (Technical or engineered material use); PROC (Process); USES (Uses)
(ionic conductance behavior of polymeric electrolytes containing magnesium salts and their application to rechargeable batteries)

L4 ANSWER 13 OF 14 CAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 2001:761515 CAPLUS
DOCUMENT NUMBER: 136:105032
TITLE: Rechargeable magnesium batteries using a novel polymeric solid electrolyte
AUTHOR(S): Morita, Masayuki; Yoshimoto, Nobuko; Yakushiji, Shin;

Ishikawa, Masashi
CORPORATE SOURCE: Department of Applied Chemistry and Chemical Engineering, Faculty of Engineering, Yamaguchi University, Ube, 755-8611, Japan
SOURCE: Electrochemical and Solid-State Letters (2001), 4(11), A177-A179
CODEN: ESLEF6; ISSN: 1099-0062
PUBLISHER: Electrochemical Society
DOCUMENT TYPE: Journal
LANGUAGE: English
REFERENCE COUNT: 22 THERE ARE 22 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

AB Solid-state magnesium batteries have been constructed with a novel polymeric electrolyte that conducts Mg ion at ambient temperature The polymer electrolyte consisting of oligo(ethylene oxide)-grafted polymethacrylate and a linear polyether dissolving an Mg salt showed as high ionic conductivity as
0.4 mS cm-1 at 60°. A test cell made of a V2O5 cathode and an Mg metal anode (Mg/V2O5) with the Mg2+-conducting polymeric electrolyte showed the first discharge capacity of about 100 mAh g (V2O5)-1. The discharge capacity and the recharge-ability of the cell were improved when Mg metal was substituted by Li metal. The discharge and recharge profile of the cell using an Mg-doped V2O5 anode (MgxV2O5/V2O5) proved that the present polymeric Mg2+-ion conductor will help to develop an all-solid rechargeable Mg-ion battery.

ST magnesium rechargeable battery polymer electrolyte

IT 7439-95-4, Magnesium, processes 133395-16-1 167763-01-1
RL: PEP (Physical, engineering or chemical process); PRP (Properties); PROC (Process)
(rechargeable magnesium batteries using novel polymeric solid electrolyte)

L4 ANSWER 14 OF 14 CAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 1995:698847 CAPLUS
DOCUMENT NUMBER: 123:88377
TITLE: Electrode material for electrochemical batteries, and the lithium batteries obtained
INVENTOR(S): Andrieu, Xavier; Rambla, Beatrice
PATENT ASSIGNEE(S): Alcatel Alsthom Compagnie Generale d'Electricite, Fr.
SOURCE: Eur. Pat. Appl., 13 pp.
CODEN: EPXXDW
DOCUMENT TYPE: Patent
LANGUAGE: French
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 650208	A1	19950426	EP 1994-402335	19941018
EP 650208	B1	19980610		
R: DE, DK, FR, GB, IT				
FR 2711843	A1	19950505	FR 1993-12570	19931021
FR 2711843	B1	19951201		
CA 2133912	A1	19950422	CA 1994-2133912	19941020
US 5496662	A	19960305	US 1994-326215	19941020
JP 07254413	A	19951003	JP 1994-256660	19941021
PRIORITY APPLN. INFO.:			FR 1993-12570 A	19931021

AB The electrodes comprise an electronic and an ionic conductor, which is a S-containing polymer having a polyether structure containing bonds capable of being reversibly oxidized and reduced, and an ionizable salt. The polyether contains 2 terminal dithioimide groups and has general formula I (R = polyether). Jeffamine 400 (polyoxypropylene diamine) was reacted in CHCl3 with N(Et)3 in the presence of S2Cl2 to give a polymer that was

mixed with propylene carbonate, $LiClO_4$, and PTFE-bonded carbon black. The resulting electrode was used, together with a Li counter electrode to manufacture a button-type battery having sp. capacity 72 A.h/kg.

ST polyether dithioimide electrode lithium battery; carbon polyether dithioimide electrode; perchlorate lithium carbon polyether electrode

IT Electrodes
(battery, electronically and ionically conductive material-containing electrodes for lithium batteries)

IT 2926-27-4, Potassium trifluoromethanesulfonate 2926-30-9, Sodium trifluoromethanesulfonate 7601-89-0, Sodium perchlorate 7778-74-7 7782-42-5, Graphite, uses 7790-98-9, Ammonium perchlorate 7791-03-9 10034-81-8, Magnesium perchlorate 12005-86-6, Sodium hexafluoroarsenate 13477-36-6, Calcium perchlorate 13755-29-8, Sodium tetrafluoroborate 13814-93-2, Calcium tetrafluoroborate 13826-83-0, Ammonium tetrafluoroborate 14075-53-7, Potassium tetrafluoroborate 14283-07-9, Lithium tetrafluoroborate 14708-13-5, Magnesium tetrafluoroborate 16941-11-0, Ammonium hexafluorophosphate 17029-22-0, Potassium hexafluoroarsenate 17068-86-9 17084-13-8, Potassium hexafluorophosphate 21324-39-0, Sodium hexafluorophosphate 21324-40-3, Lithium hexafluorophosphate 23377-90-4, Ammonium hexafluoroarsenate 29935-35-1, Lithium hexafluoroarsenate 33454-82-9, Lithium trifluoromethanesulfonate 38542-94-8, Ammonium trifluoromethanesulfonate 55120-75-7, Calcium trifluoromethanesulfonate 60871-83-2, Magnesium trifluoromethanesulfonate 73848-10-9, Magnesium hexafluoroarsenate 78415-39-1 90076-65-6 90076-67-8 91742-21-1 113359-60-7 114395-69-6 132404-42-3 133395-16-1 156088-05-0 165324-08-3 165324-09-4 165324-10-7 165324-11-8 165324-14-1
RL: NUU (Other use, unclassified); USES (Uses)
(electronically and ionically conductive material-containing electrodes for lithium batteries)